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Updates from the AOGC

Shane Khoury

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UPDATES FROM THE AOGC

Shane Khoury

RULE A-5 - ENFORCEMENT PROCEDURES

- a) Definitions:
 - 1) “Commission” shall mean the Arkansas Oil and Gas Commission, on which the Director serves as secretary, but is a non-voting member.
 - 2) “Director” shall mean the Commission Director of Production and Conservation.
 - 3) “Regulated Entity” shall mean all operators, owners, producers or persons subject to Commission regulatory authority.
 - 4) “UIC” shall mean the Underground Injection Control program of the Federal Safe Drinking Water Act.
- b) Any regulated entity engaged in the drilling, operation or plugging of any production, injection, or other well or drill hole regulated by the Commission; or the operation of any crude oil or gas production or injection facility; or the operation of any natural gas line or crude oil flowline regulated by the Commission; or transporter by tank truck of any oilfield production or completion fluid; or seismic activity; or any other activity regulated by the Commission, is subject to this rule for violation of any oil, gas and/or brine statutes, or any rule, regulation, or permit condition of the Commission.
- c) In accordance with Ark. Code Ann. § 15-72-103(c) or § 15-76-303(c), any person knowingly and willfully aiding or abetting any other person in the violation of any statute relating to the conservation of oil, gas and/or brine, or the violation of any provision of the state oil, gas and/or brine statutes, or any rule, regulation, order, or permit condition, shall be subject to the same penalties as are prescribed herein for the regulated entity.
- d) Notice of Non-Compliance
 - 1) A Notice of Non-Compliance may be issued when any regulated entity is in non-compliance with any requirement of the Arkansas oil, gas and/or brine statutes, or rules, regulations, orders, or any permit condition, and:
 - A) That the non-compliance was not caused by the regulated entity’s deliberate action;
 - B) That any action necessary to abate the non-compliance was commenced immediately and was or will be completed within a specified date certain, as established by the Director, or his or her designee, not to exceed thirty (30) days from the date of the determination that the regulated entity was determined to be in non-compliance; and
 - C) That the non-compliance has not caused and cannot reasonably be expected to cause significant environmental harm or damage to property.

- 2) The notice of non-compliance shall be documented in writing and, delivered via first class mail to the regulated entity or to the regulated entity's representative as reported on the AOGC Form 1 Organization Report. The written notification shall indicate the nature and circumstances of the non-compliance, and the time within which and the means by which the non-compliance is to be abated.
 - 3) If abatement was not completed as specified in the written notification, the Director, or his or her designee, may issue a formal Notice of Violation in accordance with subparagraph (e) below.
 - 4) The provisions of this subparagraph (d), shall not apply to the following types of incidents, which may require a Notice of Violation to be issued in accordance with subparagraph (e) below:
 - A) Conducting any regulated activity specified in paragraph (b) above prior to issuance or re-issuance of the appropriate Commission permit or authority;
 - B) Operating an annular or casing injection/disposal well or a well with pressure on the annulus;
 - C) Failure to maintain required performance bond or pay annual well fees;
 - D) Failure to establish mechanical integrity on any UIC well prior to operation, or failure to repair any UIC well following failure of mechanical integrity;
 - E) Commencing any work or activity on a well or its related production facility or well site that has been placed in the Abandoned and Orphan Well Plugging Program;
 - F) Failure to provide emergency response for a crude oil or saltwater spill;
 - G) Improper discharge or disposal of produced fluids; or
 - H) Operating a well in violation of spacing requirements or permit conditions.
- e) Notice of Violation(s)
- 1) A Notice of Violation may be issued, by the Director or his or her designee, when any regulated entity is in violation of any requirements of the Arkansas oil, gas, and/or brine statutes, or rules, regulations, orders, or any permit conditions of the Commission. Unless otherwise determined by the Commission after notice and a hearing, a regulated entity shall not be held responsible by the Commission for violations of oil, gas and/or brine statutes, or rules, regulations, or permit conditions of the Commission in the absence of the issuance of an underlying Notice of Violation.
 - 2) The Notice of Violation shall be in writing and contain:

- A) A statement regarding the nature of the violation, including a citation to the specific section of the oil, gas and/or brine statutes, or any rule, regulation, order or permit condition of the Commission alleged to have been violated;
 - B) The suggested action needed to abate the violation including any appropriate remedial measures to prevent future violations;
 - C) The time within which the violation should be abated; and
 - D) A notice of any civil penalties, as specified in subparagraph g) below, the Director will request to be issued by the Commission.
 - E) A notice of any civil penalties for violations of natural gas line regulations under United States Department of Transportation, Office of Pipeline Safety jurisdiction in accordance with appropriate federal regulation specified in 49 CFR 190.223, the Director will request to be issued by the Commission.
- 3) The Notice of Violation may include a well, lease, or unit cessation requirement for the following types of violations:
- A) Violation of production allowable;
 - B) Failure to maintain required well specific performance bond;
 - C) Drilling or operating, without a Commission permit or permit transfer, a well required to be permitted or transferred;
 - D) Operating a well that has been determined to be abandoned by the Commission;
 - E) Failure to plug a leaking well or a well ordered to be plugged by the Commission;
 - F) Operating an annular or casing injection/disposal well;
 - G) Operating a UIC Class II or V well with a failed mechanical integrity test;
 - H) Operating a UIC Class II or V well with pressure on the annulus indicating tubing and/or casing failure;
 - I) Failure to provide emergency response or remediate a crude oil or produced water spill;
 - J) Improper disposal or discharge of produced fluids; or
 - K) Any other violation for which a cessation requirement is authorized by an oil, gas and/or brine statute, or rule, regulation, order or permit condition.

- 4) The Notice of Violation may also include a state-wide cessation requirement for the following types of violations:
 - A) Failure to maintain required blanket financial assurance as specified in General Rule B-2;
 - B) Failure to pay annual well fees as specified in General Rule B-2;
 - C) Failure to pay any monies due the Abandoned and Orphaned Well Plugging Fund as specified in General Rule G-1; or
 - D) Failure to comply with the provisions of General Rule B-42, or General Rule E-3.
 - E) Any other violation for which a state-wide cessation requirement is authorized by an oil, gas and/or brine statute, or rule, regulation, order or permit condition.
- 5) The Director, or his or her designee, shall send via certified mail the Notice of Violation to the regulated entity, or the regulated entity's representative as reported on the AOGC Form 1 Organization Report, charged with the violation(s), or provide personal delivery of a copy of the notice to the regulated entity, or the regulated entity's representative.
- 6) The regulated entity charged with the violation(s) may request a Director's Review of the Notice of Violation and provide the Director, in writing, any information in mitigation of the violation(s) on or before thirty (30) calendar days of the mailing or personal delivery of the original Notice of Violation, unless a shorter time period is specified in the Notice of Violation for instances where there is a condition that creates an imminent danger to the health or safety of the public or threatens significant environmental harm or damage to the property. Such written information may include a proposed alternative to the required action needed to abate the violation(s). Upon receipt of such information from the regulated entity, the Director, shall conduct a review.
- 7) During the review, the Director may consider any of the following criteria in reaching a Final Director's Decision regarding the violation(s):
 - A) The regulated entity's history of previous violations, including violations at other locations and under other permits;
 - B) The seriousness of the violation, including any irreparable harm to the environment or damage to property;
 - C) The degree of culpability of the regulated entity; and
 - D) The existence of any additional conditions or factors in aggravation or mitigation of the violation, including information provided by the regulated entity.

- 8) Upon completion of the review, the Director shall issue a Final Director's Decision to:
 - A) affirm the violation; or
 - B) vacate the violation; or
 - C) amend or modify the type of violation and abatement requirements specified in the violation; or
 - D) establish probationary or permanent modification or conditions to any underlying permit related to the violation, which may include special monitoring or reporting requirements; or
 - E) enter into a settlement agreement to extend the amount of time provided to complete remedial actions necessary to abate the violations or reduce the amount of the requested assessed civil penalty.
 - 9) The Final Director's Decision shall be delivered to the regulated entity, or the regulated entity's representative, as reported on the AOGC Form 1 Organization Report, via first class mail. The Final Director's Decision may be appealed to the Commission by filing an application in accordance with General Rule A-2, A-3, and other applicable hearing procedures. The application to appeal the Final Director's Decision is required to be received by the Director within thirty (30) days of the mailing of the Final Director's Decision. The application shall state the reason for the appeal and shall be scheduled to be heard by the Commission in accordance with General Rule A-2, A-3, and other applicable hearing procedures.
 - 10) A Notice of Violation for which a Director's Review has not been requested, shall become a final administrative decision of the Commission thirty (30) days following the mailing of the Notice of Violation.
 - 11) A Final Director's Decision not appealed to the Commission within thirty (30) days of mailing of the Final Director's Decision shall become a final administrative decision of the Commission.
 - 12) All violations specified in a Notice of Violation(s) which have become a final administrative decision in accordance with subparagraph e) 10), a Final Director's Decision which has become a final administrative decision of the Commission in accordance with subparagraph e) 11), or by Order of the Commission, shall be fully abated within the time frame specified in the original Notice of Violation, Final Director's Decision, or Order of the Commission. No further permits or authorities shall be issued to the regulated entity until all outstanding violations specified in a Notice of Violation which has become a final administrative decision in accordance with subparagraph e) 10), a Final Director's Decision which has become a final administrative decision of the Commission in accordance with subparagraph e) 11), or by Order of the Commission have been fully abated.
- f) In addition to the issuance of a Notice of Violation(s), the Director may initiate further enforcement proceedings, as provided for in statute, as follows:

- 1) Assessment of a civil penalty as provided in Ark. Code Ann. § 15-71-114, § 15-72-103, § 15-72-202, or § 15-76-303;
- 2) The revocation of a certificate of clearance on a state-wide basis, as provided for in Ark. Code Ann. § 15-71-110 (11);
- 3) The filing of a civil complaint in a court of competent jurisdiction in the County where the violation occurred, as provided for in Ark. Code Ann. § 15-72-108 or § 15-76-304;
- 4) The filing of a criminal complaint in any court of competent jurisdiction, as provided for in Ark. Code Ann. § 15-71-114, § 15-72-104 or § 15-76-303.

g) Civil Penalties

- 1) The Director shall determine whether to request the assessment of civil penalties based on failure to comply with the applicable abatement requirements for violations issued under subparagraphs (g) (2) and (3) below. The Director shall determine whether to request the assessment of civil penalties for violations issued under subparagraphs (g) (4) and (5) below. If a civil penalty is requested by the Director, the Regulated Entity may voluntarily agree to the assessment and pay the civil penalty as requested or modified by the Director, or the Director or his designee may file an application, in accordance with General Rule A-2, A-3, and other applicable hearing procedures, to request the issuance of the requested civil penalty by the Commission. The maximum amount of the Director's requested civil penalty shall be computed as provided in subparagraphs (g) (2) through (5) below. However, the Commission is not bound by the Director's request, or the amounts provided below, and may impose civil penalties of up to the maximum amounts permitted by law.
- 2) Administrative violations, defined as failure to file required reports and forms and to provide required notices (excluding spill notice), including, but not limited to regulated activities such as, the failure to file production and well reports or other reports required by Commission rules, regulations, orders or permit conditions; failure to notify the Commission before the setting of surface casing, or the plugging of a well; failure to maintain required performance bond in force for the wells under permit; or pay annual well fees within the specified time. The Director may request the assessment of up to \$1000 per administrative violation and up to \$1000 per day for each day the violation remains unabated after the specified compliance date. The per administrative violation civil penalty request shall be calculated as follows:
 - A) No previous violation of the same rule: \$250. One previous violations of the same rule: \$500. Two or more previous violations of the same rule: \$1000. The fourth and each subsequent violation of the same rule shall be considered a significant violation in accordance with subparagraph g) 4) below.

- B) The time frame used for determining previous violations shall be limited to the regulated entity's violation record for the preceding three full calendar years before the issuance of the violation.
- 3) Operating violations, defined as failure to maintain compliance with Commission rules on well drilling and operation, and production facility, pipeline and seismic operations and/or commencing operations requiring a permit prior to issuance or re-issuance of the required permit or authority. These operations include, but are not limited to regulated activities such as, operating a well or natural gas pipeline system without the proper permit or transfer of ownership, failure to maintain a well or crude oil flow line in a leak-free condition, failure to comply with non-jurisdictional natural gas pipeline requirements, failure to notify of a spill occurrence, failure to maintain containment dikes, or operating an Exploration and Production Fluid Transportation System without a proper permit. Multiple incidents of the same violation against a regulated entity on the same occasion shall not be considered separate violations. The Director may request the assessment of up to \$2500 per operating violation and up to \$2500 per day for each day the violation remains unabated after the specified compliance date, with the exception that operating violations as specified in Ark. Code Ann. § 15-76-303 are limited to a maximum of \$1,000 per operating violation. The per operating violation civil penalty shall be calculated as follows:
- A) No previous violation of the same rule \$500. One previous violation of the same rule, \$750; two or more previous violations of the same rule, \$1000. The fourth and each subsequent violation of the same rule shall be considered a significant violation in accordance with subparagraph g) 4) below.
 - B) The time frame used for determining previous violations shall be limited to the regulated entity's violation record for the preceding three full calendar years before the issuance of the violation; plus
 - C) If the violation had a low degree of probability to cause environmental impact to soil and/or land surface, vegetation or crops, surface water, groundwater, livestock or wildlife, add \$250; or, if the violation had a high degree of probability to cause environmental impact to soil and/or land surface, vegetation or crops, surface water, groundwater, livestock or wildlife, add \$500; or, if the violation caused environmental impact to soil and/or land surface, vegetation or crops, surface water, groundwater, livestock or wildlife, add \$1000, or
 - D) If the violation created a hazard to the safety of any person, such as the contamination of a potable water well or emission of hydrogen sulfide gas, add \$2000.
- 4) Except as limited in Ark. Code Ann. § 15-76-303, significant violations may result in a request by the Director or his or her designee, of a civil penalty of up to \$2500 per violation and up to \$2500 per day for each day of the violation for the following types of violations: failure to comply with the provisions of General Rule A-7, failure to comply

with well spacing provisions, operating a UIC well without a proper permit, operating an annular or casing injection/disposal well, operating a UIC well prior to establishing mechanical integrity, operating a UIC well with a failed mechanical integrity test, operating a UIC well with pressure on the annulus, failure to provide emergency response or remediate a crude oil or produced water spill, or the improper disposal or discharge of produced fluids. The per violation civil penalty shall be computed as follows:

- A) An initial amount of \$1000; plus
 - B) One or more previous violations of the same type: add \$500 per violation; plus
 - C) If the violation caused environmental impact to surface water, ground water or wildlife: add \$1000, or if the violation created a hazard to the safety of any person, such as the contamination of a potable water well or emission of hydrogen sulfide gas: add \$1500.
 - D) The time frame used for determining previous violations shall be limited to the regulated entity's violation record for the preceding three full calendar years before the issuance of the violation.
- 5) The Director may request any amount in civil penalties authorized by applicable federal law for violations of the United States Department of Transportation, Office of Pipeline Safety jurisdictional natural gas line requirements.
- h) All civil penalties assessed and paid to the Commission shall be deposited in the Commission operating fund. Additionally, all civil penalties assessed and paid, for violations specified in Ark. Code Ann. § 15-72-202 shall be turned into the general fund of the county where the violation occurred to be used on roads, bridges, and highways at the discretion of the county court.

MARK-UP

RULE B-11 - DOMESTIC NATURAL GAS WELLS AND CONVERSION OF PERMITTED OIL AND NATURAL GAS WELLS FOR USE AS DOMESTIC NATURAL GAS OR FRESH WATER SUPPLY WELLS

- a) Domestic Natural Gas Wells
 - 1) Any well drilled by persons for use as a domestic, livestock or agriculture natural gas source, is not under the jurisdiction of the Commission and is not subject to permitting or regulation by the Commission, provided such natural gas is not sold or gathered for sale to others. Such wells may be subject to other applicable State laws.
 - 2) If the gas produced from a well operating as a domestic use well is gathered for resale to others, that well is under the jurisdiction of the Commission and shall be subject to all applicable regulatory requirements of the Commission and any other applicable state laws regarding the production, gathering and distribution of natural gas for use by consumers.
- b) Domestic Use Transfer(s) after November 16, 2008.
 - 1) A controlled natural gas production well, required to be permitted by the Commission, may be transferred to a surface owner for use as a domestic natural gas supply well if the well has not produced commercial quantities of natural gas during the previous twenty four (24) calendar months provided:
 - A) The operator files, on a form prescribed by the Director, a request to transfer the well to the surface owner, which shall include written documentation from the surface owner accepting transfer of the well for use as a domestic natural gas supply well; and
 - B) A statement by the surface owner and the operator that the natural gas from the well will be used on the property where the well is located and that any natural gas production from the well will not be sold; and
 - C) Written documentation from all owner(s), as defined in Ark. Code Ann. § 15-72-102 (9), and all mineral owners in the drilling unit upon which the well is located, stating that they do not object to the transfer of the well to the surface owner.
 - 2) An oil or natural gas production well may be transferred to a surface owner for use as a domestic or livestock freshwater supply well provided:
 - A) The operator files, on a form prescribed by the Director, a request to transfer the well to a surface owner prior to commencing plugging operations, which shall include written documentation from the surface owner accepting transfer of the well for use as a freshwater supply well; and
 - B) The well is plugged in accordance with current Commission plugging requirements with respect to all oil and natural gas producing zones and a cement

plug is placed, on the inside and outside of the production casing if left in the well, from 100 feet below the base of the fresh water extending up to the base of the fresh water in the well; and

C) All related surface production equipment is removed from the well site.

3) Following completion of the above domestic use well transfer requirements, all regulatory oversight of the well by the Commission shall terminate and the well shall become the sole responsibility of the surface owner. The well shall be subject to any applicable state laws regarding private fresh water wells or domestic natural gas supply wells administered by state and or federal agencies other than the Arkansas Oil and Gas Commission.

c) Uncontrolled natural gas production wells may not be transferred for domestic use, unless otherwise approved the Commission after notice and a hearing. Notice shall be given to all owner(s), as defined in Ark. Code Ann. § 15-72-102 (9), and all mineral owners in the leasehold upon which the well is located. Any person requesting a transfer of an uncontrolled natural gas production well shall file an application in accordance with General Rules A-2, A-3, and other applicable hearing procedures.

ed) Domestic Use Transfer(s) prior to November 16, 2008.

Any natural gas production well transferred to a surface owner for use as a domestic natural gas supply well prior to November 16, 2008, shall no longer be subject to the regulatory oversight by the Commission as long the natural gas from the well is used only on the property where the well is located and that any natural gas production from the well is not sold.

MARK-UP

RULE B – 17 WELL DRILLING PITS AND COMPLETION PITS REQUIREMENTS

a) Applicability

This rule applies to all pits constructed during the drilling, completion and testing of ~~an~~ brine, oil, gas, or oil and gas production well, brine injection or disposal well, Class II Disposal Well, and Class II Commercial Disposal Well. Pits as used in context of this rule refer to the type pits as defined in subparagraph c) below.

b) Joint Enforcement

After the effective date of this rule, any Operator who constructs or operates a pit covered by this Rule, shall be subject to the specific enforcement provisions under the respective authorities of the Arkansas Oil and Gas Commission (AOGC) or the Arkansas Department of Environmental Quality (ADEQ). The regulation of the activities covered under this rule by AOGC and ADEQ shall be in accordance with a Memorandum of Agreement (MOA) between AOGC and ADEQ.

c) Definitions:

- 1) AOGC: Arkansas Oil and Gas Commission.
- 2) ADEQ: Arkansas Department of Environmental Quality.
- 3) APC&EC: Arkansas Pollution Control and Ecology Commission.
- 4) Closed Loop System: A system that uses a combination of solids control equipment incorporated in a series of steel tanks that eliminates the use of a Pit.
- 5) Completion Flow-Back Fluid: Any of a number of liquid and gaseous fluids or mixtures of fluids, chemicals and or solids that flow from a well and consisting of Drilling Fluid, silt, debris, water, brine, oil scum, paraffin, or other materials which have been removed from the well bore during the initial completion of a well, but does not include Frac Flow-Back Fluid.
- 6) Cuttings: Fragments of rock which are a result of the cutting action of the drill bit on rock formations encountered in the well, which are transported to the surface by the Drilling Fluid.
- 7) Discharge: The release, overflow, leakage or seepage of any fluids covered by this Rule.
- 8) Drilling Fluid: Any of a number of liquid and gaseous fluids and mixtures of fluids and solids (as solid suspensions, mixtures and emulsions of liquids, gases, Cuttings and other solids) utilized during brine, oil, or gas drilling operations. Drilling Fluid is generally synonymous with drilling mud, which typically contains bentonitic clays, chemical additives, foaming agents, lubricants,

emulsifiers and weighting materials, and which encompasses most muds used in drilling operations, especially muds that contain significant amounts of suspended solids, emulsified water or oil. Mud includes all types of Water-Based, Oil-Based and synthetic-based Drilling Fluids.

- 9) Director of the ADEQ: The Director of the Arkansas Department of Environmental Quality or his or her designated representative.
- 10) Director of AOGC: The Director of the Arkansas Oil and Gas Commission or his or her designated representative.
- 11) Ecologically Sensitive Waterbody (ESW): Waters that have been given the designated use of Ecologically Sensitive Waterbody by the Arkansas Pollution Control and Ecology Commission. This beneficial use identifies segments known to provide habitat within the existing range of threatened, endangered or endemic species of aquatic or semi-aquatic life forms.
- 12) Encountered Water: Water encountered during brine, oil, or gas drilling operations, which is of sufficient quantity to require disposal, and which is not Produced Water.
- 13) Exploration and Production Waste (E&P Waste): Wastes associated with the exploration, development and production of brine, oil, ~~and~~ or gas and which are not regulated by the provisions of, and, therefore, exempt from the Federal Resource Conservation and Recovery Act, and may include, but are not limited to the following: salt water (produced brine or produced water); Oil-Based Drilling Fluids; Water-Based Drilling Fluids, Completion Flow-Back Fluid, Frac Flow-Back Fluid, Workover Flow-Back Fluid, Produced Water; rainwater from firewalls and Pits at drilling and production facilities; and other wastes not described above.
- 14) Extraordinary Resource Waters (ERW): Waters that have been given the designated use of Extraordinary Resource Waterbody by the Arkansas Pollution Control and Ecology Commission. This beneficial use is a combination of the chemical, physical and biological characteristics of a water_body and its watershed which is characterized by scenic beauty, aesthetics, scientific values, broad scope recreation potential and intangible social values.
- 15) Frac Flow-Back Fluid: Fluids that consist of fresh water and solids such as sand or other proppant (resin or ceramic grains) or other additives that flow from a well following hydraulic fracturing of a well.
- 16) Natural and Scenic Waterways (NSW): Waters that have been given the designated use of Natural and Scenic Waterways by the Arkansas Pollution Control and Ecology Commission. This beneficial use identifies segments which have been legislatively adopted into a state or federal system.
- 17) Nonhazardous Oilfield Wastes (NOW): Fluids to be used or reused in connection with activities associated with the exploration, development, and production of brine, oil, or gas and includes, but is not limited to, Drilling Fluids,

completion fluids, surfactants, and chemicals used to detoxify brine, oil, and or gas wastes.

- 18) Oil-Based Drilling Fluid: Drilling Fluid containing diesel or crude oil rather than fresh water as the main liquid phase of the drilling mud.
- 19) Operator: Any person who has the primary management and ultimate decision-making responsibility over the operation of a facility or activity. The Operator is responsible for ensuring compliance with all applicable regulations and conditions.
- 20) Person: Natural person, corporation, organization, municipality, government or governmental subdivision or agency, public or private corporation, business trust, estate, trust, individual, partnership, association, or any other legal entity.
- 21) Pit: shall include:
 - A) Circulation Pit: A pit used during drilling where Drilling Fluids are circulated during drilling operations. The Circulation Pit may be part of the Mud Pit. Circulation Pits may also refer to a series of open, above-ground tanks, usually made of steel.
 - B) Completion Pit: A pit used for storage of Completion Flow-Back Fluid and Drilling Fluids or other materials which have been cleaned out of the well bore during the initial completion of a well. Circulation or Mud Pits may be used as a Completion Pits when drilling operations conclude.
 - C) Emergency Pit: A pit used for containing fluids at an operating well during an actual emergency and for a temporary period of time. Use of the Emergency Pit is necessitated due to unplanned operational issues, which may include but is not limited to, a temporary shutdown of a disposal well or fluid injection well or associated equipment, temporary overflow of saltwater storage tanks on a producing lease, gas flaring, cement circulation, or a producing well loading up with formation fluids.
 - D) Mud Pit: A pit or series of pits used during drilling where fluids are mixed and circulated during drilling operations. Mud Pits may also refer to a series of open, above-ground tanks, usually made of steel.
 - E) Reserve Pit: A pit not part of the active circulation system, used to store Drilling Fluids or to contain fluids generated during drilling operations. Such fluids would include, but not be limited to, Cuttings, Drilling Fluids, and Encountered Water.
 - F) Test Pit: A pit constructed for use during a well test.
 - G) Workover Pit: A pit used for storage of Completion Flow-Back Fluid, Workover Flow-Back Fluid and other materials which have been cleaned out of the well bore during any subsequent completion or re-completion.

- 22) Pollution: Such contamination or other alteration of the physical, chemical, or biological properties of any waters of the state, or such discharge of any liquid, gaseous, or solid substance in any waters of the state as will, or is likely to, render the waters harmful, detrimental, or injurious to public health, safety, or welfare; to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish, or other aquatic life.
- 23) Produced Water: Water produced from any productive or potentially productive brine, oil, or gas producing interval in the well, which is not Completion Flow-Back Fluid, Frac Flow-Back Fluid, Workover Flow-Back Fluid, or Encountered Water.
- 24) Stormwater: Rainwater runoff, snow melt runoff, and surface runoff and drainage.
- 25) Water-Based Drilling Fluid: Drilling Fluid containing fresh waters rather than diesel or crude oil as the liquid component of the drilling mud.
- 26) Waters of the State: All streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.
- 27) Water Table: The surface between the zone of saturation and the zone of aeration and the surface of a body of unconfined ground water at which the pressure is equal to that of the atmosphere.
- 28) Workover Flow-Back Fluid: Any of a number of liquid and gaseous fluids and mixtures of fluids, chemicals and or solids consisting of Drilling Fluid, silt, debris, water, brine, oil scum, paraffin, or other materials which are removed from the well bore during the subsequent or recompletion of a well.

d) Commencement of Construction Operations

The Operator shall notify the appropriate AOGC Regional Office, via mail, e-mail or fax, at least forty-eight (48) hours prior to the commencement of Pit construction operations. The Notice of Commencement (NOC) shall be on a form agreed upon by AOGC and ADEQ and shall include at a minimum (i) the Operator information (name, address, and emergency contact phone number), (ii) the location of the drill pad site (latitude and longitude in degrees, minutes, seconds, and County, Section, Range, and Township, including the 1/4 of the 1/4 position within the Section), (iii) the approximate size of the drill pad, (iv) the approximate distance to the nearest Waters of the State, (v) the type of fluid system and type of Drilling Fluids to be used, (vi) well name, (vii) nearest city/town, and (viii) the approximate date Pit construction operations shall commence. Upon receiving the Notice of Commencement, AOGC shall forward a copy to ADEQ, Arkansas Department of Health, and the County Judge of the county in which the pit is located. AOGC and ADEQ staff may conduct site inspections as deemed necessary.

e) Discharges Prohibited

The Discharge from a Pit or any activity associated with the drilling or completion of a well to any surface or ground waters or in a location where it is likely to cause pollution to any surface or groundwaters is prohibited. Such discharge may subject the Operator to ADEQ enforcement actions under the provisions of the Water and Air Pollution Control Act (Act 472 of 1949, as amended, A. C. A. § 8-4-101, et seq.) and enforcement actions of AOGC under Act 105 of 1939, as amended. Any Discharge must be reported within twenty-four (24) hours to the AOGC and ADEQ. Leakage from any Pit is considered an unauthorized Discharge.

f) Mud, Circulation and Reserve Pit Construction Requirements:

1) General Requirements:

- A) Mud, Circulation and Reserve Pits constructed within the 100 year flood plain must be in accordance with any county or other local ordinance or requirement pertaining to the 100 year flood plain.
- B) The location of all Mud, Circulation or Reserve Pits shall be chosen with reasonable consideration to maximizing the distance from surface waters. Mud, Circulation or Reserve Pit construction in streams, creeks, lakes, or any other water bodies is strictly prohibited.
- C) Any Mud, Circulation or Reserve Pit construction in wetlands must receive appropriate prior authorization from the U.S. Army Corps of Engineers.
- D) In areas other than jurisdictional wetlands referenced in subparagraph f) 1) C) above, where the water table is ten (10) feet or less below the ground surface, all Mud, Circulation or Reserve Pits shall be constructed above ground, or the Operator shall use a closed loop system.

2) Reserve Pit Requirements:

- A) All Reserve Pits shall be constructed with a minimum of two (2) feet of freeboard, and shall be maintained to handle a storm event up to a 10-year, 24-hour storm event during the operation of the Reserve Pit. Reserve Pits constructed above ground utilizing bermed side walls, shall be constructed with a minimum of 2:1 (two feet horizontal to one foot vertical) side slope on both the interior and exterior walls. The top of the bermed pit walls must be a minimum of 2 feet wide.
- B) All Reserve Pits shall be constructed with a liner using one of the following methods:
 - i) A synthetic liner of at least twenty (20) mils thickness, with a four (4) inch welded seam overlap, completely covering the Reserve Pit bottom and inside walls. Sand or sandy material must be placed below the liner if a rocky or uneven surface is encountered. The synthetic liner must be protected from

deterioration, punctures and/or any activity which may damage the integrity of the synthetic liner.

- ii) A compacted clay liner may be applied to the bottom and sides of the Reserve Pit to create an impervious/impermeable barrier. Construction of the Reserve Pit and compacted clay liner shall be in accordance with sound construction and engineering principles designed and constructed to prevent any leakage or seepage to Waters of the State, with due consideration given to the topography, Pit material composition, and availability of liner material(s). The clay used to construct the liner may be in situ or mixed with additional off-site materials, if the on-site clay is inadequate.
- iii) Other materials or methods used for liner construction must be approved by both the Director of the ADEQ and the Director of the AOGC prior to use.

3) Mud and Circulation Pits:

- A) Closed Loop Systems may be used for Mud and Circulation Pits, and must be maintained in a leak-free condition.
- B) Earthen Mud and Circulation Pits shall be constructed with a minimum of two (2) feet of freeboard, and shall be maintained to handle a storm event up to a 10-year, 24-hour storm event during the operation of the Mud or Circulation Pit.
- C) Earthen Mud and Circulation Pit liners shall be constructed using one of the following methods:
 - i) A synthetic liner of at least twenty (20) mils thickness, with a four (4) inch welded seam overlap, completely covering the Reserve Pit bottom and inside walls. Sand or sandy material must be placed below the liner if a rocky or uneven surface is encountered. The synthetic liner must be protected from deterioration, punctures and/or any activity which may damage the integrity of the synthetic liner.
 - ii) Bentonite drilling mud from fresh Water-Based Drilling Fluids may be used on the bottom and sides of the earthen Mud or Circulation Pit to create an impervious/impermeable barrier. Application of the Mud or Circulation Pit bentonite drilling mud liner shall be in accordance with sound construction and standard industry practices designed and constructed to prevent any Discharge.
 - iii) A concrete liner may be applied to the bottom and sides of the earthen Mud or Circulation Pit to create an impervious/impermeable barrier. Construction of the Mud or Circulation Pit concrete liner shall be in accordance with sound

construction and standard industry practices designed and constructed to prevent any Discharge.

- D) Oil-Based Drilling Fluids shall not be placed in an earthen Mud or Circulation Pit unless the Pit is lined with a synthetic or concrete liner as prescribed in subparagraph f) 3) C) i) or iii) above.
- E) If Oil-Based Drilling Fluids are to be used, and the location of the Mud or Circulation Pit is within 100 feet of a pond, lake, stream, ERW, ESW or NSW, the Operator is required to use a Closed Loop System.

g) Operating Requirements For Mud, Circulation or Reserve Pits:

- 1) No waste oil, hydraulic fluids, transmission fluids, trash or any other miscellaneous rig waste may be disposed into a Mud, Circulation, or Reserve Pit.
- 2) Post-drilling Produced Water, and Frac Flow-Back Fluid may not be placed, stored or disposed in a Mud, Circulation, or Reserve Pit, except that as part of a Frac Flow-Back Fluid recycling program, Frac Flow-Back Fluids may be temporarily placed or stored in a Reserve Pit, for a period not to exceed ninety (90) days per pit use for this purpose if:
 - A) The Reserve Pit is constructed with a clay liner as specified in subparagraph f) 2) B) ii) above and a synthetic liner of at least forty (40) mils thickness, in addition to all other applicable Reserve Pit construction requirements as specified in subparagraph f) 2) above; and
 - B) The Operator requests approval from ADEQ in writing prior to the placement or storage of the Frac Flow-Back Fluid in a Reserve Pit. Such request shall include the AOGC Well Permit Number, well names(s), description of the water to be stored, anticipated dates of use, volume of water to be stored or placed, detailed information on any proposed pipelines for the transfer Frac Flow-Back Fluids including a map showing proposed pipeline location for; and
 - C) No Frac Flow-Back Fluids or other fluids mixed with Frac Flow-Back Fluids temporally stored or placed in a Reserve Pit may be sent to any commercial land applications disposal facility or land applied onsite.
- 3) Water-Based Drilling Fluid or Encountered Water may be placed or stored in an earthen Mud, Circulation or Reserve Pit.
- 4) Mud, Circulation and Reserve Pits must be maintained in such a manner as to prohibit any Discharges. The Operator is required to maintain adequate storage capacity at all times.
- 5) Mud, Circulation and Reserve Pit levees or walls shall be protected and maintained at all times to prevent deterioration or discharge. In addition, Pit liners shall also be maintained and protected from deterioration or puncture causing discharge of fluids until such time that the Pit is emptied and closed.

- 6) Mud, Circulation and Reserve Pits shall contain only Drilling Fluids generated during the drilling of the well or wells at the drilling pad where the Pit is constructed, except that transfer of Frac Flow-Back Fluids to another drill pad is permitted in accordance with subparagraph g) 2) above. The transfer of Frac Flow-Back Fluids via tank truck shall be in accordance with General Rule E-3. If the transfer of Frac Flow-Back Fluids is via pipeline, such pipeline shall be constructed and maintained in a leak-free condition and protected from deterioration, punctures and/or any activity which may damage the integrity of the pipeline. If the proposed pipeline will result in a stream crossing, a short term activity authorization shall be received from the ADEQ prior to construction. Any discharge from the pipeline shall be reported immediately to ADEQ.
- 7) In the event of an emergency and with prior approval from either the Director of ADEQ or the AOGC, the Reserve Pit may be used for temporary additional storage of Water-Based Drilling Fluids from another drilling pad location. In the event of an emergency, any request for approval must be submitted to both ADEQ and AOGC for review. ADEQ or AOGC will provide notice to each other at the time of the approval of any request made pursuant to this paragraph.
- 8) Except as specified in subparagraph i) 1), or in an emergency and with prior approval from the Director of the ADEQ hauling or transporting Drilling Fluids from a Pit to an off-site location, not located on a drilling pad, for additional storage is prohibited.
- 9) Oil-Based Drilling Fluids shall be segregated from Water-Based Drilling Fluids and other Drilling Fluids.
- h) Fluid Disposal and Earthen Pit Closure Requirements for Water-Based Drilling Fluid and Encountered Water.
 - 1) Water-Based Drilling Fluid or Encountered Water stored in the Pits shall be removed to the maximum extent practical using pumps or similar equipment at the time of Pit closure, and shall be disposed of in one of the following manners:
 - A) Land applied in accordance with an active ADEQ land application permit.
 - B) Disposed of fluid into approved NPDES or state permitted facility.
 - C) Injected via Class II wells permitted by AOGC.
 - D) Pumping the Water-Based Drilling Fluids back down the well bore of the well in accordance with AOGC requirements.
 - E) Water-Based Drilling Fluids exhibiting high viscosity to high solids concentration may be solidified or stabilized by combining with available native soils and buried in situ. The Operator is responsible for ensuring the native soils are properly mixed to prevent any discharge.
 - F) By any other method as approved by ADEQ and AOGC.

- 2) The Operator shall take all reasonable measures to ensure that Drilling Fluid and Encountered Water that is removed from the well-site, are properly transported to and disposed of or recycled or reclaimed at an AOGC or ADEQ permitted site or facility, or a permitted site or facility outside of Arkansas.
 - 3) Any synthetic liner used shall be removed to the fullest extent practicable and properly disposed or recycled.
 - 4) The closed Pit shall be filled with native materials and covered with topsoil at depths consistent with adjoining onsite areas, with the contour mounded or sloped to discourage erosion and restored as close to the original contours as is practicable. Topsoil and native materials removed during Pit construction may be preserved and used during closure.
 - 5) The oil & grease content of the material to be buried in situ shall be less than 3% by dry weight.
 - 6) The pit and applicable portion of the drill pad not utilized for production purposes, shall be returned to grade, reclaimed and seeded within a reasonable amount of time not to exceed one hundred eighty days (180) days after the drilling or workover rig is removed from the site, or in the case of a multiple well drill pad, within 180 days after the drilling or workover rig utilized for the last well to be drilled from the drill pad is removed, during which period the reserve pit shall be maintained in accordance with the provisions of this rule. An extension of the time to close the pit may be granted upon approval of both AOGC and ADEQ. Vegetative coverage of 75%, or equivalent to the surrounding landscape, whichever is less, shall be obtained within six (6) months of Pit closure. Until vegetation is established, the Operator is responsible for maintaining a stormwater erosion and sediment control plan.
 - 7) The Operator shall submit the Notice of Pit closure to AOGC signed by the Operator within 30 days after Pit closure has been completed. AOGC shall forward a copy to ADEQ.
- i) Fluid Disposal and Earthen Pit Closure Requirements for Oil-Based Drilling Fluids.
- 1) Oil-Based Drilling Fluids shall be removed from the Pit and hauled to a permitted Class 1 (as defined by APC&EC Regulation No. 22) landfill for disposal or be transferred to above ground tanks for re-use at another well location, or other disposal methods or uses of Oil-Based Drilling Fluids as approved by the ADEQ. The Operator shall inform the AOGC of the location of the disposal or transfer of the Oil-Based Drilling Fluid. AOGC shall forward a copy to ADEQ.
 - 2) If an Oil-Based Drilling Fluid other than diesel is used as the base, additional analytical or disposal requirements may be required, which shall require prior notification and approval by ADEQ.
 - 3) Any synthetic liner used shall be removed to the fullest extent practicable and properly disposed or recycled.

- 4) The closed Pit shall be filled with native materials and covered with topsoil at depths consistent with adjoining onsite areas, with the contour mounded or sloped to discourage erosion and restored as close to the original contours as is practicable. Topsoil and native materials removed during Pit construction may be preserved and used during closure.
 - 5) The area shall be returned to grade, reclaimed and seeded within a reasonable amount of time not to exceed one hundred eighty days (180) days after the drilling rig is removed from the site. Vegetative coverage of 75%, or equivalent to the surrounding landscape, whichever is less, shall be obtained within six (6) months of closure. Until vegetation is established, the Operator is responsible for maintaining a stormwater erosion and sediment control plan.
 - 6) The Operator shall submit the Notice of Pit closure to AOGC signed by the Operator within 30 days after Pit closure has been completed. AOGC shall forward a copy to ADEQ.
- j) Requirements for Workover Pits, Emergency Pits and Test Pits
- 1) No Produced Water, Workover Flow-Back Water, waste oil, or any other Nonhazardous Oilfield Wastes (NOW) shall be placed in a Workover, Emergency, or Test Pit, unless the Pit is lined in accordance with subparagraph f) 2) B) above.
 - 2) All Workover, Emergency, or Test Pits shall be closed within thirty (30) days after the associated workover, emergency, or test ceases. Any Workover, Emergency, or Test Pit shall be closed in accordance with the requirements of subparagraph h) above.
- k) Other drilling mud systems not specifically authorized by this Rule shall require prior notification and approval by the Director of the AOGC and the Director of ADEQ.
- l) Stormwater Erosion and Sediment Controls
- 1) The Operator shall prepare a stormwater erosion and sediment control plan for the well site covered by this rule. The plan shall be prepared in accordance with proven and accepted engineering practices. The plan shall describe and ensure the implementation of both erosion and sediment control practices which are to be used to reduce pollutants in stormwater discharges associated with the well pad and access roads to minimize erosion and reduce the sediments which may enter waters of the state and assure compliance with any applicable Water Quality Standards (WQS). Facilities shall implement the provisions of the plan required under this rule. The Operator shall provide upon request by the ADEQ or AOGC a copy of the stormwater erosion and sediment control plan.
 - 2) In lieu of a stormwater erosion and sediment control plan as required above, the Operator may use a guidance document that provides Operators the appropriate erosion and sediment controls based upon geographic region, terrain, and distance to adjacent water bodies previously submitted and approved by ADEQ.

- 3) Any facility that potentially discharges stormwater runoff to a water body listed for siltation pursuant to Section 303(d) of the Clean Water Act, or an ERW, ESW or a NSW shall have a site specific stormwater erosion and sediment control plan prepared and certified by a registered professional engineer, and such plan shall incorporate best management practices to provide reductions of the listed pollutants to the extent reasonably feasible. The 303(d) list, and the location of ERW, ESW, and NSW waters are available from ADEQ's website at the following address: <http://www.adeq.state.ar.us/water/>.

MARK-UP

RULE B-19: REQUIREMENTS FOR WELL COMPLETION UTILIZING FRACTURE STIMULATION

- a) Definitions
 - 1) “ADEQ” means the Arkansas Department of Environmental Quality.
 - 2) “Additive” means any substance or combination of substances, including proppant, having a specified purpose that is combined with a Hydraulic Fracturing Fluid.
 - 3) “AOGC” means the Arkansas Oil and Gas Commission.
 - 4) “Chemical Abstract Service” or “CAS” means the chemical registry that is the authoritative collection of disclosed chemical substance information.
 - 5) “Chemical Constituent” means a discrete chemical with its own specific name or identity (such as, but not necessarily, a CAS number) that is contained in an additive.
 - 6) “Chemical Family” means a group of elements in the Periodic Table or, more commonly, compounds that share certain physical and chemical characteristics and have a common name.
 - 7) “Hydraulic Fracturing Fluid” means the base fluid type utilized in a particular Hydraulic Fracturing Treatment.
 - 8) “Hydraulic Fracturing Treatment” means stimulating a well by the application of Hydraulic Fracturing Fluids and Additives with force in order to create artificial fractures in the formation for the purpose of improving the capacity to produce hydrocarbons.
 - 9) “RCRA” means Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et. seq.
- b) The provisions of this Rule shall apply to all new wells for which an initial drilling permit is issued on or after the effective date of this Rule.
- c) Persons applying for a permit to drill shall indicate on the initial drilling application the intent to perform Hydraulic Fracturing Treatment operations and provide the information required in accordance with subparagraph d) below. If the intent to fracture stimulate a well was not provided at the time of the initial drilling application, a Permit Holder desiring to perform Hydraulic Fracturing Treatment operations shall send the information required in accordance with subparagraph d) below via e-mail, fax or mail to the AOGC office where the initial drilling permit was issued, prior to commencement of Hydraulic Fracturing Treatment operations.
- d) The application described in subparagraph c) above shall include:
 - 1) The following information on the proposed casing program, demonstrating that the well will have steel alloy casing designed to withstand the anticipated maximum pressures to which the casing will be subjected in the well:

- A) Whether the well will be a vertical well, a directional well, or a horizontal well; and
 - B) The estimated true vertical and measured production casing setting depths; and
 - C) The casing grade and minimum internal yield pressure for the production casing proposed to be used in the well.
- 2) The following information demonstrating that the well will have sufficient cement volume and integrity to prohibit movement of fracture fluids up-hole into the various casing or well bore annuli:
 - A) The proposed cement formulation(s)' minimum compressive strength; and
 - B) The estimated top of cement for the production casing string.
- 3) The anticipated surface treating pressure range for the proposed Hydraulic Fracturing Treatment program. The production casing described in subparagraph d) 1) above shall be sufficient to contain the maximum anticipated treating pressure of the Hydraulic Fracturing Treatment, which shall not exceed 80% of the minimum internal yield pressure for such production casing.
- e) Surface casing in the well in which the proposed Hydraulic Fracturing Treatment will occur shall be set, and cemented to the surface, to a depth in accordance with General Rule B-15, and have sufficient internal yield pressure to withstand the anticipated maximum pressures to which the casing will be subjected in the well. If during the drilling of the surface portion of the well, and prior to setting surface casing, a freshwater flow is encountered, or the Permit Holder gains knowledge that freshwater will be encountered, from a deeper zone than was specified on the permit to drill, surface casing shall be set and cemented at least one hundred (100) feet below the deepest encountered freshwater zone.
- f) If during the setting and cementing of production and/or any intermediate casings the cement program does not occur as submitted in accordance with this Rule, and would cause a reasonably prudent Permit Holder to question the integrity of the cementing program with respect to isolating the zone of Hydraulic Fracturing Treatment from movement of fracture fluids up-hole into the various casing or well bore annuli, the Permit Holder shall immediately notify the Director, or his designee, in writing as soon as practicable, but not more than twenty-four (24) hours after the event. In reviewing the report, the Director, or his designee, may require a bond log or other cement evaluation tool to document cement integrity and require additional cementing operations or other appropriate well workover efforts necessary to correct any cement deficiencies prior to initiating any Hydraulic Fracturing Treatments in the well.
- g) The Permit Holder shall notify the Director or his designee via e-mail, fax or other approved method, a minimum of forty-eight (48) hours ~~and a maximum of seventy-two (72)~~ prior to commencement of a Hydraulic Fracturing Treatment on a well. If the Permit Holder cannot provide notice a minimum of forty-eight (48) hours prior to commencement, the Permit Holder shall provide a written explanation as to why the notice could not be provided, and the Permit Holder shall provide notice in the manner described above as soon as the Permit Holder is aware that a Hydraulic Fracturing Treatment has been scheduled.

- gh) The Permit Holder shall monitor all casing annuli that would be diagnostic as to a potential loss of well bore integrity during the Hydraulic Fracturing Treatment. The Permit Holder shall establish methods to timely relieve any excessive pressures to avoid the loss of surface casing integrity.
- hi) The Permit Holder must provide written notice to the Director, or his designee, of (i) any change in surface casing annulus pressure that would indicate movement of fluids into the annulus, or (ii) a pressure that exceeds the rated minimum internal yield pressure on any casing string in communication with the Hydraulic Fracturing Treatment. This written notice shall be delivered as soon as possible after the event, but not more than twenty-four (24) hours after the event. Following notification and any request for additional information, the Director, or his designee, may request additional documentation or well tests to determine if the Hydraulic Fracturing Treatment potentially endangered any freshwater zones. The Director, or his designee, may require appropriate additional cementing operations, or other well workover efforts to correct any well failure. Pending completion of required operations or efforts, the Director, or his designee, may order the cessation of further Hydraulic Fracturing Treatment and/or other well operations. The Director shall report any such incident to the Commission at its next regularly scheduled hearing, and the Commission may take such further action as it deems necessary and appropriate under the circumstances.
- hj) All non-exempt RCRA materials and fluids used on-site in the Hydraulic Fracturing Treatment shall be handled and stored in accordance with ADEQ requirements and any spills of these materials and fluids on-site or off-site shall be reported to ADEQ in accordance with applicable ADEQ requirements. All RCRA exempt materials and fluids used on-site in the Hydraulic Fracturing Treatment shall be contained in leak free tanks or other containment vessels. Any on-site spill of these materials or fluids shall be immediately contained, remediation efforts shall be commenced as soon as practical, and the incident shall be reported to the Director, or his designee, within twenty-four (24) hours.
- jk) All Hydraulic Fracturing Treatment flow back fluids shall be handled, transported, stored, disposed, or recycled for re-use in accordance with the applicable provisions of General Rule B-17, General Rule E-3 and General Rule H-1, H-2 and H-3.
- kl) Following completion of the Hydraulic Fracturing Treatment, the Permit Holder shall, for purposes of disclosure, report detailed information to the Director, or his designee, of the Hydraulic Fracturing Treatment in the manner customarily reported or presented to the Permit Holder, within the time period specified in General Rule B-5, as follows:
- 1) The maximum pump pressure measured at the surface during each stage of the Hydraulic Fracturing Treatment; and
 - 2) The types and volumes of the Hydraulic Fracturing-Fluid and proppant used for each stage of the Hydraulic Fracturing Treatment; and
 - 3) The calculated fracture height as designed to be achieved during the Hydraulic Fracturing Treatment and the estimated TVD to the top of the fracture; and
 - 4) A list of all Additives used during the Hydraulic Fracturing Treatment specified by general type, such as acid, biocide, breaker, corrosion inhibitor, crosslinker, demulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, scale inhibitor, proppant and surfactant; and

- 5) The names of all specific Additives for each Additive type, specified in subparagraph ~~k~~l) 4) above, utilized during the Hydraulic Fracturing Treatment and the actual rate or concentration for each such Additive expressed as pounds per thousand gallons or gallons per thousand gallons additionally, the Additives are to be expressed as a percent by volume of the total Hydraulic Fracturing Fluids and Additives; and
- 6) The Permit Holder shall supply field service company tickets (excluding pricing) and reports regarding the Hydraulic Fracturing Treatment, as used in the normal course of business to satisfy some or all of the foregoing information requirements; and
- 7) The Permit Holder shall supply all information received from the person performing the Hydraulic Fracturing Treatment specified in subparagraph ~~l~~m) 4) below.
- 8) If the Permit Holder causes any Additives to be utilized during the Hydraulic Fracturing Treatment not otherwise disclosed by the person performing the Hydraulic Fracturing Treatment, the Permit Holder shall disclose a list of all Chemical Constituents and associated CAS numbers contained in all such Additives; provided, however, in those limited situations where the specific identity of any such Chemical Constituent and associated CAS number is entitled to be withheld as a trade secret under the criteria set forth in subsection (a)(2) of 42 U.S.C. § 11042, the Permit Holder shall (i) submit to the Director a claim of entitlement to have the identity of such Chemical Constituent withheld as a trade secret, and (ii) provide the Director with the Chemical Family associated with such Chemical Constituent. The identity of any Chemical Constituent that qualifies as a trade secret under the criteria set forth in subsection (a)(2) of 42 U.S.C. § 11042 shall be held confidential by the Director.
- 9) Nothing in subparagraph ~~k~~l) 8) above shall authorize any person to withhold information which is required by state or federal law to be provided to a health care professional, a doctor, or a nurse. All information required by a health care professional, a doctor, or a nurse shall be supplied, immediately upon request, by the person performing the Hydraulic Fracturing Treatment, directly to the requesting health care professional, doctor, or nurse, including the percent by volume of the Chemical Constituents (and associated CAS numbers) of the total Hydraulic Fracturing Fluids and Additives.

~~l~~m) Any person performing Hydraulic Fracturing Treatments within the State of Arkansas shall:

- 1) Be authorized to do business in the State of Arkansas; and
- 2) Be required to file Organization Reports in accordance with General Rule B-13, and include the length of time the entity has been in the business of performing Hydraulic Fracturing Treatments; and
- 3) Disclose to the Director, or his designee, and maintain separate master lists of:
 - A) All Hydraulic Fracturing Fluids to be utilized during any Hydraulic Fracturing Treatment within the State of Arkansas; and
 - B) All Additives to be utilized during any Hydraulic Fracturing Treatment within the State of Arkansas; and

- C) All Chemical Constituents and associated CAS numbers to be utilized in any Hydraulic Fracturing Treatment within the State of Arkansas; provided, however, in those limited situations where the specific identity of any such Chemical Constituent and associated CAS number is entitled to be withheld as a trade secret under the criteria set forth in subsection (a)(2) of 42 U.S.C. § 11042, the person performing the Hydraulic Fracturing Treatment shall (i) submit to the Director a claim of entitlement to have the identity of such Chemical Constituent withheld as a trade secret, and (ii) provide the Director with the Chemical Family associated with such Chemical Constituent. The identity of any Chemical Constituent that qualifies as a trade secret under the criteria set forth in subsection (a)(2) of 42 U.S.C. § 11042 shall be held confidential by the Director; and
- 4) Provide to the Permit Holder for each well that such person performs a Hydraulic Fracturing Treatment, lists of:
 - A) The Hydraulic Fracturing Fluids utilized during the Hydraulic Fracturing Treatment; and
 - B) The Additives utilized during the Hydraulic Fracturing Treatment, and the actual rate or concentration for each such Additive utilized, expressed as pounds per thousand gallons or gallons per thousand gallons; additionally, the Additives are to be expressed as percent by volume of the total Hydraulic Fracturing Fluids and Additives, so that the Permit Holder may comply with its obligations under subparagraph ~~k~~l) above; and
 - C) All Chemical Constituents and associated CAS numbers utilized during the Hydraulic Fracturing Treatment; unless the specific identity of any such Chemical Constituent and associated CAS number is entitled to be withheld as a trade secret in accordance with subparagraph ~~l~~m) 3) c) above.
 - 5) Nothing in subparagraphs ~~l~~m) 3) c) or l) 4) c) above shall authorize any person to withhold information which is required by state or federal law to be provided to a health care professional, a doctor, or a nurse. All information required by a health care professional, a doctor, or a nurse shall be supplied, immediately upon request, by the person performing the Hydraulic Fracturing Treatment, directly to the requesting health care professional, doctor, or nurse, including the percent by volume of the Chemical Constituents (and associated CAS numbers) of the total Hydraulic Fracturing Fluids and Additives.

~~l~~m) No Permit Holder shall utilize the services of another person to perform a Hydraulic Fracturing Treatment unless the person performing a Hydraulic Fracturing Treatment is in compliance with subparagraph ~~l~~m) above.

**RULE H-1 - CLASS II DISPOSAL AND CLASS II COMMERCIAL DISPOSAL WELL PERMIT
APPLICATION PROCEDURES**

a) Definitions:

- 1) "Class II Disposal Well"-- means:
 - A) A permitted Class II well in which Class II Fluids are injected into zones not productive of oil and gas, and brine used to produce bromine, within the field boundary established by an order of the Commission for the production of liquid hydrocarbons or brine used to produce bromine, where the well is located or will be located, for the purpose of disposal of those fluids; or
 - B) A permitted Class II well in which Class II Fluids are injected into a zone or zones, which are not commercially productive of dry gas, within the same common source of supply, where the well is located or will be located, for the purpose of disposal of those fluids.
- 2) "Class II Commercial Disposal Well"-- means a permitted Class II well in which Class II Fluids are injected, for which the Permit Holder receives deliveries of Class II Fluids by tank truck from multiple oil and gas well operators, and either charges a fee at the disposal well facility or purchases the Class II Fluids at the source for subsequent transport to the disposal well facility for the specific purpose of disposal of the delivered Class II Fluids.
- 3) "Class II Fluids" means:
 - A) Produced water and/or other fluids brought to the surface in connection with drilling, completion, or fracture treatments, workover or recompletion and plugging of oil and natural gas wells; Class II or wells that are required to be permitted as water supply wells by the Commission; enhanced recovery operations; or natural gas storage operations; or
 - B) Produced water and/or other fluids from (A) above, which prior to re-injection have been used on site for purposes integrally associated to oil and natural gas well drilling, completion, or fracture treatments, workover or recompletion and plugging of oil and natural gas wells; Class II or wells that are required to be permitted as water supply wells by the Commission; enhanced recovery operations; or natural gas storage operations, or chemically treated or altered to the extent necessary to make them usable for purposes integrally related to oil and natural gas well drilling, completion, workover and plugging, oil and gas production, enhanced recovery operations, or natural gas storage operations, or commingled with fluid wastes resulting from fluid treatments outlined above, and including any other exempted oil and gas related fluids under the Resource Conservation and Recovery Act, provided the commingled fluid wastes do not constitute a hazardous waste under the Resource Conservation and Recovery Act; or
 - C) Waste fluids from gas plants (including filter backwash, precipitated sludge, iron sponge, hydrogen sulfide and scrubber liquid) which are an integral part of oil

and gas production operations; and waste fluids from gas dehydration plants (including glycol-based compounds and filter backwash), unless the gas plant or gas dehydration plant wastes are classified as hazardous under the federal Resource Conservation and Recovery Act.

- 4) “Confining layer” means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone. It is composed of rock layers that are impermeable or distinctly less permeable than the injection zone beneath it. There may be multiple confining layers above an injection zone.
- 5) “Permit Holder” means the entity or person to whom the permit is issued and who is responsible for all regulatory requirements relative to the Class II Disposal or Class II Commercial Disposal Well.
- 56) “USDW” means Underground Source of Drinking Water which is defined in Title 40, Code of Federal Regulations (40 CFR) Section 144.3, as an aquifer or its portion which:
 - A) Supplies any public water system (see 40 CFR); or
 - B) Contains a sufficient quantity of groundwater to supply a public water system (see 40 CFR) and currently supplies drinking water for human consumption; or
 - C) Contains fewer than 10,000 mg/l total dissolved solids (see 40 CFR); and
 - D) Which is not an exempted aquifer (see 40 CFR)
- b) No person shall drill, deepen, re-enter, recompleat or operate any well for use as a Class II Disposal or Class II Commercial Disposal Well or inject into any well, without the applicable permits from the Commission, application for which shall be made on forms prescribed by the Director. Permits are valid only for the Permit Holder stated on the permit, and shall remain valid only with ongoing compliance with established operating requirements specified in General Rule H-2 or H-3, except that permits to drill, deepen, or re-enter shall automatically expire six (6) months from the date of issuance, unless commencement of the drilling, deepening or re-entry of plugged well operations authorized by the permit has occurred, which are to be continued with due diligence, but not to exceed one (1) year from the date of commencement of the drilling, deepening or re-entry of plugged well operations authorized by the permit, at which time the well shall be plugged, injection casing set, or a new permit application, along with a new permit fee and plat, must be filed. Failure to comply with the operating requirements in General Rule H-2 or H-3 may result in revocation of the Class II Disposal Well or Class II Commercial Disposal Well permit in accordance with subparagraph q) below.
 - 1) Authority to conduct an injectivity test, step rate test or trial injection test prior to, or after the issuance of a permit may be approved as follows:
 - A) An injectivity test, step rate test or trial injection test of less than twelve (12) hours duration may be approved by the Director upon review of the well construction to determine well mechanical integrity for the protection of the USDW’s and oil and gas resources during the test. The Director shall establish the protective parameters of the test, require the submittal of any information or

test data deemed necessary and may require the witnessing by Commission staff of the test.

- B) An Applicant may request approval from the Commission, by filing an application in accordance with General A-2 and A-3 and other applicable hearing procedures, of an injectivity test, step rate test or trial injection test of twelve (12) hours or more in duration.
- 2) No Class II Disposal or Class II Commercial Disposal Well may be drilled at a surface location other than that specified on the permit, except that if a permit holder has commenced drilling operations and the Class II Disposal or Class II Commercial Disposal Well is lost due to adverse drilling conditions prior to surface casing being set, the permit holder may request an amendment of the permit without a fee for the new location, provided the Class II Disposal or Class II Commercial Disposal Well remains on the same surface owners property where the Class II Disposal or Class II Commercial Disposal Well was originally permitted and all other aspects of the permit request remain the same. Movement of the Class II Disposal or Class II Commercial Disposal Well location off the original surface owners' property, or after surface casing has been set, will require the filing of a new permit application, along with a new permit fee and plat. Drilling may not commence prior to the issuance of a new permit.
- 3) Permits to recompleate or operate shall automatically expire one year from the date of issuance, unless commencement of the operations authorized by the permit has occurred, or a new permit application, along with a new permit fee has been filed.
- ~~4) The entity or person to whom the permit is issued shall be called the Permit Holder and shall be responsible for all regulatory requirements relative to the Class II Disposal or Class II Commercial Disposal Well.~~
- ~~5~~4) Upon issuance of a permit, a copy of the permit shall be displayed at the site where the Class II Disposal or Class II Commercial Disposal Well is being drilled for review by Commission staff.
- ~~6~~5) Permits to drill, deepen, or re-enter a Class II Disposal or Class II Commercial Disposal Well may only be issued if the location complies with General Rule B-3.
- c) The application to drill, deepen, re-enter, recompleate or operate a Class II Disposal or Class II Commercial Disposal Well shall include at a minimum:
 - 1) The information required by subparagraph (h) below, for the existing or proposed well and any additional information deemed necessary by the Director for the protection of USDWs; and
 - 2) Accompanied by a permit fee in the amount of \$300.00 if the Class II Disposal or Class II Commercial Disposal Well is drilled, deepened, or re-entered; and
 - 3) Accompanied by a non-refundable fee of \$100.00 for a Class II Disposal Well or \$500.00 for a Class II Commercial Disposal Well to recompleate or operate the Class II Disposal or Class II Commercial Disposal Well; and

- 4) Accompanied by the required financial assurance in accordance with General Rule B-2; and
 - 5) Accompanied by a Form 1 Organizational Report in accordance with General Rule B-13; and
 - 6 Be executed under penalties of perjury; and
 - 7) If the applicant is a corporation, limited liability company, limited liability partnership or other business entity, it must be incorporated, organized, or authorized to do business in the State of Arkansas, and by filing an application, the applicant irrevocably waives, to the fullest extent permitted by law, any objection to a hearing before the Commission or in a court of competent jurisdiction in Arkansas; and
 - 8) If the applicant is an individual, partnership, or other entity that is not a resident of Arkansas, the applicant must be authorized to do business in Arkansas, and by filing an application, the applicant irrevocably waives, to the fullest extent permitted by law, any objection to a hearing before the Commission or in a court of competent jurisdiction in Arkansas; and
 - 9) Proof that the Class II Disposal or Class II Commercial Well location complies with General Rule B-3.
- d) No person shall inject into USDWs or be issued a permit to inject into USDWs unless an aquifer exemption has been granted in accordance with US Environmental Protection Agency procedures.
 - e) Unless otherwise approved by the Commission, no person shall inject into a well which does not have at a minimum, five hundred (500) feet for a Class II Disposal Well or seven hundred-fifty (750) feet for a Class II Commercial Disposal Well, of confining layers between the base of the lowermost USDWs and the top of the injection interval, with no individual confining layer being less than 50 feet in thickness. A lesser amount of confining layer(s) may be approved, provided the Applicant provides substantial information as to the integrity of the confining layers to inhibit the upward migration of the injection fluids so as not to endanger the lowermost USDW in the area of the well.
 - f) If the application does not contain all of the required information or documents, the Director shall notify the Applicant in writing. The notification shall specify the additional information or documents necessary for an evaluation of the application and shall advise the Applicant that the application will be deemed denied unless the information or documents are submitted within sixty (60) days following the date of notification.
 - g) Applications for a Class II Disposal Well shall contain the names of all permit holders who are to utilize the proposed disposal well.
 - h) Contents of Application
 - 1) A specification as to the type of Class II well being permitted as a Class II Disposal Well or a Class II Commercial Disposal Well.

- 2) The Applicant shall provide the name, address, phone, fax and e-mail (if available) of the local or on-site supervisory or field personnel responsible for the disposal well.
- 3) If the well is not located within the boundaries of an operating oil and gas leasehold or drilling unit, the Applicant shall provide documentation, in the form of a surface use agreement or an affidavit of a surface use agreement, indicating the Applicant's right to drill and to operate the proposed disposal well. If the well is located within the boundaries of an operating oil and gas leasehold or drilling unit, and the Applicant is someone other than the operator of the leasehold or drilling unit, the Applicant shall provide documentation, in the form of a surface use agreement, or an affidavit of a surface use agreement, indicating the Applicant's right to drill and to operate the proposed disposal well.
- 4) A survey plat of the location and ground elevation of the proposed disposal well or if the application is for an existing well, the well name and permit number of the existing well. A new survey is not required for a well to be converted or deepened well or a plugged well to be re-entered, if the original well location was surveyed, a copy of which shall be submitted with the application.
- 5) The name, geologic description and the approximate top and bottom elevation, from sub-sea, of the formation (indicating the perforated or open hole interval) into which fluid will be injected and the geologic description and top and bottom elevation, from sub-sea, of the above confining layers, in the proposed or existing disposal well. If an existing well is to be converted, a geophysical log of the well shall be submitted showing the above information. ~~If~~ For a proposed well, an induction log from a well in the immediate vicinity of the proposed disposal well shall be submitted. If the geologic name of the interval is unclear include any additional geological evidence such as a cross section, structure or isopach map that may be necessary to adequately define the proposed injection interval.
- 6) A well bore diagram of the proposed or existing well showing casing for the injection well, indicating from the well head to total depth of the well, all casings and cementing of casings, any obstructions within well, all plugs set, tubing and packer setting depth, and all perforations and or open hole intervals. If application is for an existing well, a cement bond log (CBL) shall be submitted with the application, or if submitted after the application is filed, the CBL shall be submitted prior to commencement of operations as a condition of the permit.
- 7) The proposed daily amounts to be injected, the source and the type of fluid to be injected, ~~and including a standard laboratory report analysis from an accredited laboratory reporting the laboratory results of a representative sample of the various types of the proposed disposal fluids for the following parameters: indicating~~ chloride, pH, specific gravity, total dissolved solids (TDS) and total percent hydrocarbon (TPH). The sample shall be obtained and analyzed no earlier than one hundred-eighty (180) days prior to the date of filing of the application and analyzed in a timely fashion after collection.
- 8) The maximum injection pressure.

- A) The Director shall determine the maximum permitted injected pressure, measured at the wellhead, by multiplying the results of the formula below by ninety percent (90%):
- i) A maximum fracture gradient not to exceed 1.1 psi/ft (x) depth to injection formation (-) weight of fluid column (specific gravity of injection fluid) (+) injection tubing friction loss in Ashley, Bradley, Calhoun, Columbia, Hempstead, Lafayette Miller, Nevada, Ouachita, and Union counties for injection into formations below the Midway Shale Formation; or
 - ii) A maximum fracture gradient not to exceed 1.0 psi/ft (x) depth to injection formation (-) weight of fluid column (specific gravity of injection fluid) (+) injection tubing friction loss in all other counties for injection into formations below the Fayetteville Shale Formation in the areas covered by General Rule B-43 (c) and (d), General Rule B-44, and the portions of Franklin, Logan, Scott, Sebastian, and Yell Counties not covered by General Rule B-44; or
 - iii) A maximum fracture gradient not to exceed 0.73 psi/ft (x) depth to injection formation (-) weight of fluid column (specific gravity of injection fluid) (+) injection tubing friction loss for all other formations and/or counties.

The following calculation is included only as an example, and for informational and demonstrative purposes only. For purposes of this example, assume the well is in Columbia County, the total depth to the injection formation is 2,500 feet, the specific gravity is 1.085, and the injection tubing friction loss is 250 psi. Using the formula provided above, the maximum permitted injection pressure for the well would be 1,642 psig, calculated as follows:

Step 1: $0.9 \times [(1.1 \text{ psi/ft} \times 2500 \text{ ft}) - [0.433 \text{ psi/ft} \times 2500 \text{ ft}] \times 1.085 \text{ (specific gravity)}] + 250 \text{ tubing friction loss}]$

Step 2: $0.9 \times [2750 \text{ psi} - 1175 + 250 \text{ tubing friction loss}]$

Step 3: $0.9 \times [1825]$

Step 4: Result = 1642 psig

- B) An Applicant may request an increase in the maximum injection pressure specified in subparagraph h) 8) A) above, or appeal a Director's decision to issue a permit utilizing a fracture gradient less than the maximum fracture gradient specified in subparagraph h) 8) A) above, by filing an application in accordance with General A-2, A-3 and other applicable hearing procedures. Any increase in the maximum injection pressure may be granted if the Applicant presents sufficient evidence to justify the requested increased injection pressure will not initiate or propagate fractures in the overlying confining layer(s) that could enable the injection fluid or the fluid in the injection interval to leave the permitted injection intervals or cause movement of the injection fluid or formation fluids into USDWs.

- 9) A map showing:
- A) The surveyed location of the well proposed to be drilled, deepened or converted, showing distances to the nearest property or lease lines; and
 - B) The location of all known plugged and unplugged wells, which penetrate the proposed injection interval, within the 1/2 mile radius from the proposed disposal well, and showing the status of each well as producing, shut-in, disposal, enhanced recovery, plugged and abandoned, or other status.
- 10) The Applicant shall submit evidence, where available, that all plugged and unplugged wells which penetrate the injection formation, within the 1/2 mile radius shown on the above plat in subparagraph h) 9) B), contain an adequate amount of cement and are constructed or plugged in a manner which will prevent the injection fluid and the fluid in the injection formation from entering USDWs. The types of evidence that will be considered acceptable include, but are not limited to: well completion reports, cementing records, well construction records, cement bond logs, tracer surveys, oxygen activation logs, and plugging records.
- 11) The Applicant shall submit evidence and/or information showing that the proposed injection interval or formation is not a USDW.
- 12) The Applicant shall submit information as to the depth (subsea) of the fresh water supply in the nearest known private water well and in the nearest known public water system water well.
- 13) If the application is for a Class II UIC Commercial Disposal Well, a listing of all previous and current violations of any statute, rule, regulation, permit condition, or order of the Commission, the Arkansas Department of Environmental Quality, the Arkansas Pollution Control and Ecology Commission, or any other state or federal environmental regulatory agency, including those of other states, regarding oil or gas related activities.
- i) Notice of the application shall be given by the Applicant by one (1) publication in a legal newspaper having a general circulation in the county, or in each county, if there shall be more than one, in which the one-half mile radius from the proposed disposal well is situated, and by mailing via certified mail, FedEx, ~~or~~ UPS, or other method that provides proof of mailing and delivery, a copy of the application to each permit holder of all permitted, drilling or producing wells within a one-half mile radius of the proposed disposal well. Such notice shall be published or mailed no more than thirty (30) days, prior to the date on which the application is filed with the Commission. The cost of such notice and mailing of the application shall be paid for by the Applicant. Attached to the application shall be evidence that the application was mailed or sent as required ~~copies of the return mail receipts~~ and a proof of publication of the application from the newspaper.
- j) If notice is for a commercial disposal well, in addition to compliance with subparagraph i) above, the commercial disposal well application shall also be sent via certified mail, FedEx, or UPS to the County Judge of the county where the well is located and to the landowner (surface owner) where the well is located. In addition, the public notice should be large font and surrounded by a printed border to highlight the published notice.

- k) Objections received by the Director, must be received by the Director within fifteen (15) days after the publication date of the notice and the date of mailing or sending to all parties specified in subparagraphs i) and j) above.
- l) If an objection is received the application shall be deemed denied. If the application is denied under this section, the Applicant may request to have the application referred to the Commission for determination, in accordance with General Rules A-2 and A-3, and other applicable hearing procedures, except that no additional filing fee is required.
- m) If an objection is not received by the Director and the application is deemed complete, the permit shall be issued following the required notice period specified in subparagraph i) above, unless the Director deems it necessary, for the purpose of protecting USDWs or oil and gas resources, that the application may be referred to the Commission for determination, and no additional filing fee is required from the applicant.
- n) If the application does not satisfy the requirements of this Rule, the application shall be denied. If the application is denied under this section, the Applicant may request to have the application referred to the Commission for determination, in accordance with General Rules A-2 and A-3, and other applicable hearing procedures.
- o) If the ~~a~~Applicant satisfies the requirements of all applicable statutes and this Rule, a permit shall be issued, unless:
 - 1) The ~~a~~Applicant has falsified or otherwise misstated any material information on or relative to the permit application; or
 - 2) For purposes of Class II Commercial Disposal Wells, the ~~a~~Applicant:
 - A) Has an owner, officer, director, partner, or member or manager of a limited liability company, or other person with an interest in the entity exceeding 5%;
 - i) That has failed to abate an outstanding violation of the oil and gas statutes or rules, regulations, or comply with an orders of the Commission as specified in a final administrative decision of the Commission; or
 - ii) For which funds have been obligated and remain outstanding from the Plugging and Restoration Fund to plug wells, under General Rule G-1 or G-2; or
 - iii) Who is delinquent in payment of any annual well fees under General Rule B-2; ~~or~~
 - B) Was an owner, officer, director, partner, or member or manager of a limited liability company, or other person with an interest exceeding 5%;
 - i) That has failed to abate an outstanding violation of the oil and gas statutes or rules, regulations, or comply with an orders of the Commission as specified in a final administrative decision of the Commission; or

- ii) For which funds have been obligated and remain outstanding from the Plugging and Restoration Fund to plug wells, under General Rule G-1 or G-2; or
 - iii) Who is delinquent in payment of any annual well fees under General Rule B-2; ~~or~~
- C) Is a Permit Holder or an owner, officer, director, partner, or member or manager of a limited liability company, or other person with an interest exceeding 5%;
 - i) That has failed to abate an outstanding violation of the oil and gas statutes or rules, regulations, or comply with an orders of the Commission as specified in a final administrative decision of the Commission; or
 - ii) For which funds have been obligated and remain outstanding from the Plugging and Restoration Fund to plug wells, under General Rule G-1 or G-2; or
 - iii) Who is delinquent in payment of any annual well fees under General Rule B-2; ~~or~~
- D) ~~If t~~The Director determines that the applicant, or an owner, officer, director, partner, or member or manager of a limited liability company, or other person with an interest exceeding 5% in the applicant, has a history of violating an oil and gas statute, rule, regulation, permit condition or order of the Commission, the Arkansas Department of Environmental Quality, the Arkansas Pollution and Ecology Commission, or any other state or federal environmental regulatory agency, including those of other states, regarding oil or gas related activities, which pose a potential danger to the environment and public health and safety. In making the determination, the Director may consider:
 - i) The danger to the environment and public health and safety if the applicant's proposed activity is not conducted in a competent and responsible manner; and
 - ii) The degree to which past and present oil and gas related activities directly bear upon the reliability, competence, and responsibility of the applicant.
- ~~3E)~~ If a permit is not issued in accordance with subparagraph o) 2) above, the Applicant may request to have the permit application referred to the Commission for determination, in accordance with General Rules A-2 and A-3, and other applicable hearing procedures, except that no additional filing fee is required.
- p) The Commission retains jurisdiction to determine zones suitable for disposal injection based on the porosity, permeability, fluid capacity, structure, geology and overall suitability of the zone as a disposal injection interval with respect to protection of USDWs and oil and gas resources.
- q) Class II Disposal or Class II Commercial Disposal Well Drilling Permit or Transfer Revocation Procedures

- 1) The Director may revoke a Class II Disposal or Class II Commercial Disposal Well permit or transfer approval if the Permit Holder fails to meet permit conditions as specified in the Class II Disposal or Class II Commercial Disposal Well permit or transfer approval, the Class II Disposal or Class II Commercial Disposal Well permit or transfer approval was issued in error, or the Permit Holder falsified or otherwise misstated any material information in the application form.
 - 2) The Director shall notify the Permit Holder of the Class II Disposal or Class II Commercial Disposal Well permit or transfer revocation in writing. Following the revocation notice the Permit Holder is required to plug the Class II Disposal or Class II Commercial Disposal Well. The Permit holder shall have thirty (30) days from the date of the Class II Disposal or Class II Commercial Disposal Well permit or transfer revocation to appeal the Director's Decision to revoke the Class II Disposal or Class II Commercial Disposal Well permit or transfer approval in accordance with General Rule A-2, A-3 and other applicable hearing procedures. Operations may not commence or continue during the appeal process. A revocation of a Class II Disposal or Class II Commercial Disposal Well permit or transfer approval for which an appeal has not been filed, shall become a final administrative decision of the Commission thirty (30) days following the date of the revocation.
- r) Class II Disposal or Class II Commercial Disposal Well Transfer Procedures
- 1) Definitions
 - A) "Current Permit Holder" means the individual or entity required to hold the permit or to whom the permit was issued and who is the owner of the right to operate said Class II Disposal or Class II Commercial Disposal Well(s), possesses the full rights and responsibilities for operating the Class II Disposal or Class II Commercial Disposal Well(s) in accordance with applicable Arkansas law and has the current obligation to plug said Class II Disposal or Class II Commercial Disposal Well(s), who is the assignor, transferor or seller (whether voluntary or involuntary) of the Class II Disposal or Class II Commercial Disposal Well(s).
 - B) "New Permit Holder" means the individual or entity acquiring the Class II Disposal or Class II Commercial Disposal Well(s) and the right to operate said Class II Disposal or Class II Commercial Disposal Well(s), who obtains the full rights and responsibilities for operating the Class II Disposal or Class II Commercial Disposal Well(s) in accordance with applicable Arkansas law and/or rule, regulation, or order of the Commission, ~~whom~~ will obtain the obligation to plug said Class II Disposal or Class II Commercial Disposal Well(s), and who as owner or operator in accordance with applicable Arkansas law and/or rule, regulation, or order of the Commission is required to hold the permit.
 - C) "Transfer" means any assignment, devise, release, transfer, takeover, buyout, merger, sale, conveyance, or other transfer of any kind, whether voluntarily or involuntarily.

- 2) The provisions of this subparagraph apply to all transfers of the interest of the individual or entity required to hold and to whom the Class II Disposal or Class II Commercial Disposal Well transfer approval is issued (Permit Holder), including but not limited to:
 - A) a change of ownership of the right to drill and/or operate said Class II Disposal or Class II Commercial Disposal Well(s), along with the full rights and responsibilities for operating the Class II Disposal or Class II Commercial Disposal Well(s) and the obligation to ultimately plug said Class II Disposal or Class II Commercial Disposal Well(s); or
 - B) a change in the designation of the owner or operator under an operating or other similar agreement; or
 - C) a change pursuant to the action of the owners of separate interests who designate an owner to be Permit Holder; or
 - D) a change required by the appointment, by a court of competent jurisdiction, of a trustee or a receiver to exercise custody and control over the Class II Disposal or Class II Commercial Disposal Well(s), including the right to drill and/or operate said well(s) along with the full right and responsibilities for operating the well(s).
- 3) The provisions of this subparagraph shall not apply to the transfer of working interests not affecting the rights or responsibilities of the Permit Holder.
- 4) The provisions of this subparagraph shall not apply to transfers of Class II Disposal or Class II Commercial Disposal Well(s) abandoned or orphaned in accordance with General Rule G-1 or G-2. Transfers of Class II Disposal or Class II Commercial Disposal Wells deemed abandoned or orphaned are subject to the transfer provisions in General Rule G-3.
- 5) Notification of a transfer shall be given to the Director, or his designee, by the Current Permit Holder, on a form prescribed by the Director, of the transfer of any Class II Disposal or Class II Commercial Disposal Well or any Class II Disposal or Class II Commercial Disposal Well required to be permitted within thirty (30) days after the effective date of the transfer.
- 6) A separate form shall be completed for each lease, Class II Disposal or Class II Commercial Disposal Well, or other unit transferred.
- 7) The notification shall be signed by the Current Permit Holder and the New Permit Holder, or by authorized representatives specified on the Organizational Report filed in accordance with General Rule B-13, except as follows:
 - A) In lieu of the signature of the Current Permit Holder, the New Permit Holder may submit a court order or other legal document evidencing ownership of the lease or unit to be transferred in the event that the Current Permit Holder cannot be located or refuses to sign the notification of transfer form.
 - B) In lieu of the signature of the New Permit Holder, the Current Permit Holder may submit documentation evidencing transfer of the ownership of the Class II

Disposal or Class II Commercial Disposal Well, lease, or unit in the event the New Permit Holder refuses to sign the notification of transfer form.

- 8) A New Permit Holder may operate Class II Disposal or Class II Commercial Disposal Wells covered by the Class II Disposal or Class II Commercial Disposal Well transfer request, until such time as the transfer request has been approved or denied by the Director or his designee, provided the request was submitted within thirty (30) days of the actual transfer of the Class II Disposal or Class II Commercial Disposal Well. However, Class II Disposal or Class II Commercial Disposal Wells may not be operated by the New Permit Holder, until a Class II Disposal or Class II Commercial Disposal Well transfer request is approved, if the request was received by the Director, or his designee, more than thirty (30) days after the actual transfer of the Class II Disposal or Class II Commercial Disposal Well.
- 9) A New Permit Holder that acquires the right to operate a Class II Disposal or Class II Commercial Disposal Well(s) pursuant to a transfer shall apply for and must receive transfer approval from the Director, or his designee, prior to operating the Class II Disposal or Class II Commercial Disposal Well(s) beyond the timeframe specified in subparagraph (r)(8) above.
- 10) Prior to the Director, or his designee, approving the transfer request, the New Permit Holder shall provide the required financial assurance, if applicable, in accordance with General Rule B-2, and file the required organizational report, if applicable, in accordance with General Rule B-13.
- 11) A transfer to a New Permit Holder may be denied by the Director, or his designee, if the New Permit Holder meets any of the conditions specified in subparagraph o) above.
- 12) The New Permit Holder shall be responsible for all regulatory requirements relative to all Class II Disposal or Class II Commercial Disposal Wells and all other surface production facilities in existence at the time of the transfer related to the Class II Disposal or Class II Commercial Disposal Wells. The New Permit Holder shall not be responsible for regulatory requirements relative to spills of crude oil or other production fluids which occurred prior to the date of the transfer, unless the New Permit Holder has otherwise agreed with the Current Permit Holder.
- 13) If any Class II Disposal or Class II Commercial Disposal Well, or any lease or other unit associated with the Class II Disposal or Class II Commercial Disposal Well, is in violation at the time of the transfer request to the New Permit Holder, the transfer request shall be denied pending abatement of all violations by the Current Permit Holder. However, if the New Permit Holder, after being notified of the violation(s), agrees in writing to the transfer approval including conditions to abate all violations, the transfer may be approved by the Director, or his designee. Failure to abate the violations within the time period specified by the Director or his designee may result in revocation of the transfer approval in accordance with subparagraph q) above, and/or other applicable enforcement actions in accordance with General Rule A-5.
- 14) The Current Permit Holder is not responsible for any regulatory violation caused by the actions of the New Permit Holder during the permit transfer process, after notice is given to the Director, or his designee, by the Current Permit Holder of the pending transfer if the transfer is approved. However, if the transfer is denied by the Director or his

designee, the Current Permit Holder assumes all responsibility for the violations caused by the New Permit Holder. Nothing in this subsection shall affect the contractual rights and obligations between the person or entity transferring the Class II Disposal or Class II Commercial Disposal Well(s) and the person or entity acquiring the Class II Disposal or Class II Commercial Disposal Well(s).

- 15) The transfer approval pursuant to this subparagraph shall not affect the rights of the Commission, or any obligation or duty of the Current Permit Holder arising under any applicable Arkansas laws, or rules, regulations, or orders of the Commission. Any cause of action accruing or any action or proceeding which has commenced, whether administrative, civil or criminal, may be instituted or continued without regard to the transfer approval.
- 16) The Director shall notify the Current and New Permit Holder of the transfer approval or denial in writing. Following the approval or denial of the transfer approval request, the Current or New Permit holder shall have thirty (30) days from the date of the approval or denial to appeal the Director's Decision in accordance with General Rule A-2, A-3 and other applicable hearing procedures. A transfer request approval or denial, for which an appeal has not been filed, shall become a final administrative decision of the Commission thirty (30) days following the date of the approval or denial.

s) Miscellaneous Provisions and Requirements for Class II Disposal or Class II Commercial Disposal Wells Within General Rule B-43 Section c) lands.

1) Definitions:

- a. "Regional Fault" means the identified fault zones named by the Arkansas Geological Survey as the Clinton, Center Ridge, Heber Springs, Enders and Morrilton Fault zones; and which are part of a general east-west turning north-east (approximately N55°E to N75°E) trending, down thrown to the south, fault system generally occurring below the Fayetteville Shale Formation displacing the Lower Mississippian through Precambrian strata and truncating upward at the unconformity between the Mississippian and Pennsylvanian age strata; and which are identified on the Arkansas Geological Survey map attached hereto as Exhibit 1 to this Rule; and as updated for purposes of this Rule following notice and a hearing in accordance with General Rule A-2.
- b. "Moratorium Zone Deep Faults" means deeper faults associated with the Guy-Greenbrier Earthquake Swarm; and which are part of a general northeast-southwest (approximately N30°E) trending deeper fault system displacing the Lower Ordovician through Precambrian strata occurring in the general B-43 Section c) lands area.

- 2) Unless otherwise approved by the Commission after notice and a hearing, No permit to drill, deepen, re-enter, recomplete or operate a Class II Disposal or Class II Commercial Disposal Well may be granted for any Class II or Class II Commercial Disposal wells in any formation within the following area ("Moratorium Zone") located in Cleburne, Conway, Faulkner, Van Buren, and White Counties:

<u>Sections</u>	<u>Township</u>	<u>Range</u>
<u>ALL</u>	<u>4N</u>	<u>13W</u>
<u>ALL</u>	<u>5N</u>	<u>12W</u>
<u>ALL</u>	<u>5N</u>	<u>13W</u>
<u>ALL</u>	<u>5N</u>	<u>14W</u>
<u>ALL</u>	<u>6N</u>	<u>12W</u>
<u>ALL</u>	<u>6N</u>	<u>13W</u>
<u>ALL</u>	<u>7N</u>	<u>11W</u>
<u>ALL</u>	<u>7N</u>	<u>12W</u>
<u>ALL</u>	<u>7N</u>	<u>13W</u>
<u>ALL</u>	<u>8N</u>	<u>11W</u>
<u>ALL</u>	<u>8N</u>	<u>12W</u>
<u>ALL</u>	<u>8N</u>	<u>13W</u>
<u>ALL</u>	<u>9N</u>	<u>10W</u>
<u>ALL</u>	<u>9N</u>	<u>11W</u>
<u>ALL</u>	<u>9N</u>	<u>12W</u>
<u>ALL</u>	<u>10N</u>	<u>10W</u>
<u>ALL</u>	<u>10N</u>	<u>11W</u>
<u>ALL</u>	<u>11N</u>	<u>10W</u>
<u>ALL</u>	<u>11N</u>	<u>11W</u>
<u>1-12, 14-23, 27-33</u>	<u>4N</u>	<u>12W</u>
<u>1-30, 35-36</u>	<u>4N</u>	<u>14W</u>
<u>1-2, 10-15, 23-25</u>	<u>4N</u>	<u>15W</u>
<u>4-9, 17-20, 30-31</u>	<u>5N</u>	<u>11W</u>
<u>25, 35-36</u>	<u>5N</u>	<u>15W</u>
<u>6</u>	<u>6N</u>	<u>10W</u>
<u>1-23, 26-34</u>	<u>6N</u>	<u>11W</u>
<u>1-4, 9-36</u>	<u>6N</u>	<u>14W</u>
<u>24-25, 36</u>	<u>6N</u>	<u>15W</u>
<u>3-9, 16-20, 29-31</u>	<u>7N</u>	<u>10W</u>
<u>1, 11-14, 22-27, 34-36</u>	<u>7N</u>	<u>14W</u>
<u>6-7</u>	<u>8N</u>	<u>9W</u>
<u>1-24, 26-35</u>	<u>8N</u>	<u>10W</u>
<u>25, 36</u>	<u>8N</u>	<u>14W</u>
<u>3-10, 15-21, 29-32</u>	<u>9N</u>	<u>9W</u>
<u>1-5, 7-36</u>	<u>9N</u>	<u>13W</u>
<u>1-23, 27-34</u>	<u>10N</u>	<u>9W</u>
<u>1-3, 9-17, 19-36</u>	<u>10N</u>	<u>12W</u>
<u>25, 33, 34, 36</u>	<u>10N</u>	<u>13W</u>
<u>17-22, 27-35</u>	<u>11N</u>	<u>9W</u>
<u>13, 23-27, 34-36</u>	<u>11N</u>	<u>12W</u>

- 3) Unless otherwise approved by the Commission after notice and a hearing, no permit to drill or re-enter, a new Class II Disposal or Class II Commercial Disposal Well may be granted within one (1) mile of a Regional Fault or within five (5) miles of a known or identified Moratorium Zone Deep Fault within any remaining B-43 Section c) lands.
- 4) Unless otherwise approved by the Commission after notice and a hearing, no permit to deepen or re-complete any existing Class II Disposal or Class II Commercial Disposal Well in a zone stratigraphically below the Fayetteville Shale formation, may be granted within one (1) mile of a Regional Fault or within five (5) miles of a known or identified Moratorium Zone Deep Fault within any remaining B-43 Section c) lands.
- 5) Unless otherwise approved by the Commission after notice and a hearing, the following provisions shall apply to any permit to drill, deepen, or operate a new Class II Disposal or Class II Commercial Disposal Well proposed to be located within in any remaining B-43 Section c) lands:
 - a) No Class II Disposal or Class II Commercial Disposal Well disposing in a zone occurring stratigraphically below the Fayetteville Shale formation shall be located within five (5) miles of another Class II Disposal or Class II Commercial Disposal Well disposing in a zone occurring stratigraphically below the Fayetteville Shale formation.
 - b) No Class II Disposal or Class II Commercial Disposal well disposing in a zone occurring stratigraphically above the Fayetteville Shale formation shall be located within one-half (1/2) mile of another Class II Disposal or Class II Commercial Disposal Well disposing in a zone occurring stratigraphically above the Fayetteville Shale formation.
- 6) The Applicant shall provide technical information to the Director in support of the application. The technical justification shall include information related to the location of any Moratorium Zone Deep Fault within five (5) miles or Regional Fault within two miles (2) of the proposed location of the Class II Disposal or Class II Commercial Disposal Well, with special emphasis on identifying any deep faults occurring below the Fayetteville Shale formation which extend to the basement rock.
- 7) Flow meters, or other measuring devices approved by the Director, shall be installed on all Class II Disposal and Class II Commercial Disposal Wells and Permit Holders shall submit accurate injection volume and pressure information, on no less than a daily basis, on a form prescribed by the Director.